

Introduction to Applied Nutrition Research Fall 2019 Syllabus

COURSE NAME; NUMBER; SEMESTER; MEETING DAYS, TIMES, AND PLACE.

Introduction to Applied Nutrition Research (3 credits)

16:709:503 Fall 2019

Monday 2:15-5:15pm

Davison Hall, Room 216

CONTACT INFORMATION:

Instructor(s): Virginia Quick, PhD, RD

Office Location: Davison Hall, Room 209

Office Phone: (848) 932-0950 Cell Phone: (908) 507-4879 Email: vquick@njaes.rutgers.edu

Office Hours: By appointment

COURSE DESCRIPTION:

This course emphasizes skills in the conduct and interpretation of research. Emphasis given to study design, instrumentation, analysis, and ethical issues.

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Selected readings from articles posted on the Sakai course website and the text book below.
 - Elaine R. Monsen & Linda Van Horn. *Research Successful Approaches, Fourth Edition*. (2019) Academy of Nutrition and Dietetics. ISBN #9780880919463
- **Required text book:** Karen Eich Drummond & Alison Murphy-Reyes. *Nutrition Research: Concepts & Applications*. (2018) Jones & Bartlett Learning, LLC. ISBN #9781284101539

STUDENT LEARNING OUTCOMES:

At the end of this course, students will be able to:

1. Discuss research ethics.
2. Describe key research methods associated with quantitative and qualitative research in applied nutrition and dietetics.
3. Identify characteristics of high quality research studies.
4. Conduct and write reviews of literature reflecting current research consensus and future directions.
5. Describe common problems (validity, reliability, ethical concerns) associated with collecting research data, interpreting and reporting findings, and strategies for effectively managing these problems.
6. Distinguish between and among common analytical tests and assumptions that underlie them.
7. Plan a high-quality thesis/dissertation proposal that uses appropriate research methods, ethical procedures, and data analysis procedures.
8. Present a thesis/dissertation proposal and demonstrate how it uses appropriate research methods, ethical procedures, and data analysis procedures.
9. Evaluate and apply evidence-based and emerging scientific research to applied nutrition and dietetics practice (evidence-based practice).
10. Develop research presentation skills.

2017 Core Competencies for the RDN (CRDN) – Standards for Dietetic Internship Programs:

The Dietetic Internship program in the Department of Nutritional Sciences Graduate School is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The following ACEND Core Competencies are included within the curriculum of this course with examples of how they are addressed:

CRDN	Assignment(s)
CRDN 1.2: Apply evidence-based guidelines, systematic reviews and scientific	<ul style="list-style-type: none"> • EAL Orientation Tutorial • Review of Literature (SLO Outcome) • Research Study Designs • Manuscript • Presentation
CRDN 1.3 Justify programs, products, services and care using appropriate evidence or data	<ul style="list-style-type: none"> • Manuscript • Presentation
CRDN 1.4 Evaluate emerging research for application in nutrition and dietetics practice	<ul style="list-style-type: none"> • Review of Literature • Manuscript
CRDN 1.5: Conduct projects using appropriate research methods, ethical procedures and data analysis	<ul style="list-style-type: none"> • Review of Literature • Research Study Designs • Manuscript • Presentation • IRB Training Module
CRDN 1.6 Incorporate critical-thinking skills in overall practice	<ul style="list-style-type: none"> • Advisor Planning Meeting • Review of Literature • Research Study Designs • Manuscript • Presentation
CRDN 2.2: Demonstrate professional writing skills in preparing professional communications	<ul style="list-style-type: none"> • Review of Literature • Research Study Designs • Manuscript
CRDN 2.3: Demonstrate active participation, teamwork, and contributions in group settings	<ul style="list-style-type: none"> • Review of Literature (peer review) • Presentations (peer review)
CRDN 2.7 Apply leadership skills to achieve desired outcomes	<ul style="list-style-type: none"> • Personal Goal Setting and Analysis • Advisor Planning Meeting
CRDN 2.8 Demonstrate negotiation skills	<ul style="list-style-type: none"> • Advisor Planning Meeting
CRDN 2.10 Demonstrate professional attributes in all areas of practice	<ul style="list-style-type: none"> • Demeanor in all professional interactions • Advisor Planning Meeting • Presentation
CRDN 2.11 Show cultural competency/sensitivity in interactions with clients, colleagues, and staff	<ul style="list-style-type: none"> • Demeanor in all professional interactions
CRDN 2.12 Perform self-assessment and develop goals for self-improvement throughout the program	<ul style="list-style-type: none"> • Personal Goal Setting and Analysis
CRDN 3.4: Design, implement and evaluate presentations to a target audience	<ul style="list-style-type: none"> • Presentation

CRDN 3.8 Deliver respectful, science-based answers to client questions concerning emerging trends	<ul style="list-style-type: none"> • Presentation
CRDN 4.4 Apply current nutrition informatics to develop, store, retrieve and disseminate information and data	<ul style="list-style-type: none"> • Review of Literature • Presentation
CRDN 4.10 Analyze risk in nutrition and dietetics practice	<ul style="list-style-type: none"> • Research Study Design
PCC 3 Apply research principles and methods to examine current problems in nutrition and disease.	<ul style="list-style-type: none"> • Review of Literature • Research Study Design • Manuscript

ASSIGNMENTS/RESPONSIBILITIES & ASSESSMENT:

The course instructor reserves the right to modify the syllabus and assignments to take advantage of emerging learning opportunities and/or student learning needs and achievements.

Attendance: Attendance and active participation is expected. It is your responsibility to keep up to date with the course content.

Missed Exams & Late Work: There will be no make-up exams. If you cannot take an exam, you must contact the instruction a minimum of 1 week in advance. If you miss an exam for unforeseen circumstances (each situation will be evaluated on a case-by-case basis) you must contact the instructor within 8 hours. Assignments will be assessed a penalty for being late. There will be a 10% penalty per day (including weekends) turned in late. Assignments more than 5 days late will not be accepted. Each assignment will specify deadlines and the method and form for turning in assignments.

Exams: There is one mid-term exam. Format and time(s) are TBD.

Assignments (all assignments should be uploaded onto the Canvas website before the given due date)

Personal Goal Setting and Analysis Assignment: Complete this self-evaluation of achievement in obtaining identified goals during the course and submit to the DI Director (via Canvas). **Assessment:** 10 pts each for initial goals, midpoint, final. **CRDN** addressed: 2.7, 2.12

Planning Meeting for Research Paper: Set up a meeting with your research adviser to discuss research opportunities. In preparation for the meeting, create a list of 10 questions/points to explore with your research adviser. If you do not have a research adviser yet, review the list of research opportunities and advisors presented in class. Identify at least 2 that interest you and plan to meet with them. After the meeting(s), you should have a clear idea of the research question, topic, target audience, proposed analyses and timeline for the project. As soon as you feel the topic and research advisor is a good match, confirm with the research advisor in person and with a follow-up email that you will pursue the study. **Assessment** is based on completeness of the Planning Meeting for Research Paper Assignment form; assignment is graded for completeness of the written planning meeting for research paper report (10 points for developing 10 questions pertinent to the meeting; 15 points for documenting proposed research questions (5 points), analyzes (5 points), variables of interest (3 points) and timeline for the project (2 points). Total possible points = 25. **CRDNs** addressed: 1.6, 2.7, 2.8, 2.10.

EAL Orientation Tutorial: Watch the EAL Orientation Tutorial (4 modules - each around 10-15 minutes in length): <https://www.andeal.org/tutorials>, and complete the short quiz. After completing the short quiz and passing, you will receive a certificate of completion. **Assessment** is based on passing and receiving the certificate. Total possible points = 45. **CRDNs** addressed: 1.2

IRB Training Module: Need to complete the online IRB Training Module. The certification lasts for three years and is required for conducting research at Rutgers. The CITI training module and detailed instructions on how to get started can be found at: <https://orra.rutgers.edu/citi>. **Assessment** is based on passing and receiving the CITI certificate. Total possible points = 50. **CRDNs** addressed: 1.5.

Review of Literature: Complete a literature review and prepare a 10 to 15 page paper. Students are strongly advised to consult with his or her research advisor to choose an appropriate topic for the research paper prior to completing the review of literature. Students must conduct a systematic literature review using MeSH terms in PubMed. **Assessment** is based on completeness and accuracy of the literature review paper (assessed using the grading rubric for literature review). Criteria on the Review of Literature Grading Rubric includes the following: introducing the idea or problem statement (18 points), flow of the review in body (18 points), coverage of content (18 points), clarity of writing and writing technique (18 points), concluding statement and synthesis of ideas (18 points), and citations/references formatting (10 points). Total possible points = 100. Letter grade of “B” is equivalent to 80 points. **CRDNs** addressed: 1.2, 1.4, 1.5, 1.6, 2.2, 2.3, 4.4; PCC 3.

Research Study Design: There will be two projects in which you must design a research study. The first assignment is to design a cohort study and the second is to design an intervention study. For both projects the focus is on the study design. The topic of your research project can be used or a different one can be selected. Be sure to cover **who, what, where and how** the research will be done. Include a section that describes how the study adheres to the ethical treatment of human subjects and describe the risks and benefits of the study to the field and participants. **Assessment** is based on the Criteria on the Research Study Design Rubrics which include these criteria (statement of problem, research objective(s), and hypothesis; types of variables and how they will be measured; methods and research ethics. Total possible points = 100. **CRDNs** addressed: 1.2, 1.5, 1.6, 2.2, 4.10; PCC 3.

Manuscript: Using your literature review and one of your research designs (cohort or intervention), imagine you have completed the research project. Write a manuscript using the author’s guidelines for the *Journal of the Academy of Nutrition and Dietetics*. A title page needs to be included as instructed by the author guidelines. The introduction should be about 4 to 5 paragraphs (a condensed version of your literature review) and build a strong case for the research you plan to conduct. The last paragraph of the introduction should explicitly describe the purpose of the research reported in the article. The methods section should describe in detail who the participants (sample) are, data collection (e.g., type of data, how it will be collected, where it will be collected), and a detailed description of how the data will be analyzed. The results will be brief, you can make those up, be sure to indicate which statistical analysis is used for generating results. Next, write a brief discussion section summarizing what you “found”, how it compares to past research, how these findings will help the targeted audience, study limitations and strengths, and future study recommendations. Grading will be based on the content of the introduction and methods, as well as the ability to follow journal guidelines. Use a reference manager such as Endnote or RefWorks for all references in the paper. Reference manager software is free for students and can be downloaded from Rutgers Library website. **Assessment** is based the Manuscript

Grading Rubric. Criteria on grading rubric includes the following: title page (20 points), introduction (20 points), methods (20 points), organizations/structural development of research paper (20 points), mechanics and word usage (10 points), citations (5 points), references (5 points). Total possible points = 100. **CRDNs** addressed: 1.2, 1.3, 1.4, 1.5, 1.6, 2.2; PCC 3.

Presentation: Present your research proposal to the class (20 minute presentation and 10 minutes question and answer period). Assessment is based on delivery of the professional presentation (assessed using the Professional Presentation Grading Rubric). Criteria on grading rubric includes the following: visual aids (20 points), content (20 points), professional appearance/quality (20 points), presentation style (20 points), and grammar/references (20 points). Total possible points = 100. **CRDNs** addressed: 1.2, 1.3, 1.5, 1.6, 2.3, 2.10, 3.4, 3.8, 4.4.

Professional, Ethical, and Academic Integrity Behaviors Self-Evaluation: At the end of the course, Dr. Quick will be assessing your professional behaviors with regards to your participation in class/interaction with peers and presentation of your research proposal. Total possible points = 100.

Standards of Performance and Evaluation

Student performance in this course will be based upon cumulative point totals from each of the following:

Assessment tools	Point Value	My Grades (<i>track status</i>)
1. Personal Goal Setting/Analysis	(30)	_____
2. EAL Orientation Tutorial	(45)	_____
3. Rutgers IRB Certification	(50)	_____
4. Research Advisor Meeting Plan	(25)	_____
5. Review of Literature	(100)	_____
6. Cohort Study Design	(100)	_____
7. Intervention Study Design	(100)	_____
8. Midterm Exam	(100)	_____
9. Professional Presentation	(100)	_____
10. Manuscript	(100)	_____
11. Professional, Ethical, and Academic Integrity Behaviors	(100)	_____

Graduate Grading Scale:

GRADE SCALE	93-100	90-92	87-89	80-86	77-79	70-76	<70
% OF POINTS	A	A-	B+	B	C+	C	F

COURSE SCHEDULE (tentative):

<i>Dates</i>	<i>Topics</i>	<i>Readings</i>	<i>Assignments Due</i>
Sept 3 rd	<ul style="list-style-type: none"> • Course Introduction • Nutrition Research & Ethics Overview • Evidence-Based Nutrition Practice Guidelines 	Drummond & Murphy-Reyes: Chapters 1 thru 3	<ul style="list-style-type: none"> • Complete the EAL Orientation Tutorial • Personal Goal Setting & Analysis <p>Plan & meet with your research advisor – <u>completed form due September 30th</u></p>
Sept 9 th	<ul style="list-style-type: none"> • Conducting a systematic literature search using MeSH on PubMed (<i>Guest Speaker: Judit Ward</i>) • Research Question and Literature Review 	Monsen: Chapter 2	<ul style="list-style-type: none"> • Bring research question(s) with you to class • Complete the EAL Orientation Tutorial
Sept 16 th	<ul style="list-style-type: none"> • Quantitative Research (Observational & Experimental) • Qualitative Research 	Drummond & Murphy-Reyes: Chapters 4, & 6 thru 11 Gleason et al article; Swift & Tischler article; Zoellner et al article	Complete IRB Training
Sept 23 rd	Data Analyses 101	Drummond & Murphy-Reyes: Chapter 5 Harris et al article Bouschey et al article (2008) Miller articles	Cohort Study Design
Sept 30 th	Survey Research Meta-analysis & Systematic Reviews	Drummond & Murphy-Reyes: Chapters 12 & 13 Ahn & Kang (2018) article	Intervention Study Design
Oct 7 th	Midterm Exam		Personal Goal Setting & Analysis (Midterm Reflection)
Oct 14- Nov 30 th	Peer review of literature review paper first draft		<ul style="list-style-type: none"> • First Draft DUE OCT 25th for peer to review by NOV 4th • Second draft DUE NOV 11th for Dr. Quick's review
Dec 2 nd	• Writing and disseminating research	Drummond & Murphy-Reyes: Chapter 14	Work on Presentations & Professional Manuscripts

	• Presenting Research Data	Jimenez et al: Chapter 41 Seals & Tanaka article	
Dec 9 th	Writing grants for nutrition research	Drummond & Murphy-Reyes: Chapter 15	Final Literature Review paper due
Dec 16 th	Presentations		<ul style="list-style-type: none"> • Manuscripts • Professional Presentations • Personal Goal Setting & Analysis (Final Reflection) • Professional, ethical and academic integrity self-evaluation

ACCOMMODATIONS for Students with disabilities

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

ABSENCE POLICY

Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. The principles of academic integrity require that a student:

1. properly acknowledge and cite all use of the ideas, results, or words of others.
2. properly acknowledge all contributors to a given piece of work.
3. make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
4. obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
5. treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
6. uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

1. everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
2. all student work is fairly evaluated and no student has an inappropriate advantage over others.
3. the academic and ethical development of all students is fostered.
4. the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

AVAILABLE STUDENT SUPPORT SERVICES

- ***If you are having personal or other problems, there are many options at Rutgers for assistance.***
 - Student Affairs office can help with issues related to your experience at Rutgers and when you don't know where to start when looking for assistance, contact the [Dean of Students office](#).
 - If are in need of *mental health* services, please use our readily available services. Rutgers Counseling and Psychological Services (CAPS) – New Brunswick: <http://rhscaps.rutgers.edu/>
 - If you need some temporary guidance, there is “Lets Talk” – which is a CAPS service offering drop-in hours at a number of locations across campus. No appointment is necessary. <http://health.rutgers.edu/medical-counseling-services/counseling/therapy/community-based-counseling/#runbhc>
- **If you are in need of *physical health* services** due to illness, please reach out to:
Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>
- **If you do not have enough food**, there is a Food Pantry on College Ave campus that is exclusively for Rutgers Students. <http://ruoffcampus.rutgers.edu/food/>
- If you need accommodation for a *disability*, obtain a Letter of Accommodation from the Office of Disability Services that provides student-centered and inclusive services. <https://ods.rutgers.edu>
- If you are a **military veteran** or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>
- If you are in **need of legal services**, please use our readily available services: <http://rusls.rutgers.edu/>
- If you are in need of additional *academic assistance*, please use our readily available services. Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>.
- If you or somebody you know has been victimized by a *crime, interpersonal violence* (e.g., stalking, sexual assault), support is available at the Rutgers Office for Violence Prevention and Victim assistance. <http://vpva.rutgers.edu>

OTHER STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.